



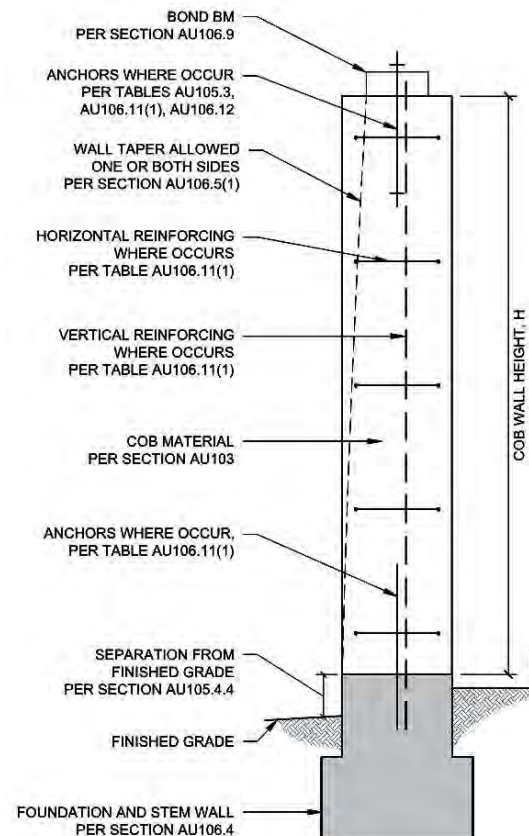
# The Cob Report

Cob is an ancient and modern wall building system using a mix of clay rich earth, sand, straw and water

Welcome to THE COB REPORT -  
Issue #2 Newsletter of the  
Cob Research Institute - MAY 2019

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IRC Appendix Cob Wall Detail

# DOUBLE YOUR DONATION

# ANNOUNCING THE CASBA \$3,500 DONATION MATCH

The California Straw Building Association is matching new donations up to a total of \$3,500. Donate before May 30th and your support of CRI will be matched dollar for dollar. Here is a chance to double your support of CRI.

## SUPPORT CRI

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### A NOTE FROM OUR DIRECTOR

Welcome to the Cob Research Institute Newsletter. Your interest in CRI and support of our mission is important to us. The Cob Research Institute is a public interest 501(c)3 non-profit organization founded in 2008 with the mission to remove legal obstacles to building with cob.

CRI needs to be able to support a staff to do the work of making a cob building code a reality. The needed research, cob testing, code development, and ultimate gaining of acceptance by the code authorities is expensive and CRI is working to do this on your behalf. Please do your part and support the CRI effort. I'd like to thank you in advance for your generosity. Don't hesitate to contact me directly at [jfordice@cobcode.org](mailto:jfordice@cobcode.org) if you have any questions.

Thanks, and cob on!

John Fordice - CRI Director

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### CRI's PROPOSED IRC COB CONSTRUCTION APPENDIX

After several years working towards creating a Cob Building Code, in January of 2019 CRI submitted a proposed Cob Appendix for the International Residential Code (IRC). The IRC is a comprehensive building code for one- and two-family dwellings, used as a template throughout most of the United States. If accepted, the cob appendix will be published as an optional part of the code in 2021. CRI Advisory Council member Martin Hammer, architect and lead-author of the straw-bale and light straw-clay appendices already in the IRC, has overseen the project and written the proposed Appendix in collaboration with CRI members and many others. The entire proposed IRC Appendix and its Reason Statement can be found on the CRI website at:

[https://cobcode.s3.amazonaws.com/RB299-19\\_IRC\\_ProposedAppendixU\\_CobConstruction.pdf](https://cobcode.s3.amazonaws.com/RB299-19_IRC_ProposedAppendixU_CobConstruction.pdf)

Here is an excerpt from the Reason Statement for the proposed Appendix:

“Since the 1990’s, there has been increasing interest in cob construction in the United States and much of the world. Like other earthen construction methods, cob can greatly reduce embodied energy and life-cycle CO2 emissions of buildings. Cob is highly recyclable, and with good design, construction and maintenance, can withstand centuries of use. The constituent materials are inexpensive compared with lumber, steel, concrete and other commonly used building materials. Cob is non-combustible and non-toxic in all stages of construction and use. Cob’s thermal mass and moisture management properties modulate interior temperature and humidity, creating healthful building.

The lack of a cob building code has been an impediment to the proper and broader use of cob construction. The proposed Cob Construction appendix for the IRC is created in response to this need. It is based on New Zealand’s earthen building standards, on US codes for the closely-related earthen building systems of adobe and straw-clay, and on the experience and the testing of cob buildings over the past 25 years by architects, engineers, builders, and academics throughout the U.S. and the world. It has received review and input from over 25 experts including 4 architects and 6 civil engineers, including the architect and chair of the Committee that developed the New Zealand Standard for Earth Buildings. Much of the recent testing and research has been compiled or performed by the California-based Cob Research Institute, a non-profit organization founded in 2008 to remove legal barriers to cob construction and promote its safe use. When adopted, the proposed appendix will serve designers, builders, owners, inhabitants, and building officials alike in the design and construction of safe and durable cob buildings.



## RESULTS FROM IRC COMMITTEE HEARINGS

By Martin Hammer, architect and lead author of proposed Appendix U

On Saturday May 4, CRI’s proposed Appendix U – Cob Construction (Monolithic Adobe) was presented in testimony to the 11-member IRC Committee in Albuquerque, NM. Committee members had been given the two previous months to review the proposal along with 300 other IRC proposals.

CRI's 5-member testimony team presented many compelling reasons in support of the Cob Appendix, including its well-developed, earthquake-safe (for high seismic regions) structural section, and cob's exceptional fire resistance.

Anthony Dente, the lead engineer of the proposal, worked with another engineer at the hearings to incorporate her suggested improvements, which garnered her valuable support in testimony. A compelling letter of support from elected officials and chief building officials from wildfire-vulnerable and damaged communities was also read in testimony. Our team included a fire science engineer and university professor who conducted an equivalency analysis for the 1-hour fire rating for cob walls in the proposal, a very conservative rating based on historic and other evidence. However, the only opposition testimony to the proposal related to this subject of fire resistance, because the typically required ASTM test (a very costly test) had not been performed.

After testimony, the Committee in their comments praised the proposal and *encouraged* our team to continue the effort, but voted to disapprove the proposal. This was mostly or entirely because of the 1-hour fire rating without the ASTM test, though the challenge of cob walls meeting energy code requirements was also raised. It is ironic that one of cob's greatest strengths, its inherent fire resistance, was called into question and likely caused the proposal's disapproval.

Though these results are disappointing, CRI is not discouraged. On the contrary we are encouraged, and we hope you are too. Code proposals of this magnitude are rarely approved the first time, and most importantly we see a clear path to future approval. The ICC process allows a "Public Comment" to modify our proposal to address the Committee's concerns. A second public hearing will occur in October in Las Vegas, at which voting ICC members (mostly building and fire officials) could approve the modified proposal. With sufficient fundraising in the next two months we will conduct the ASTM fire test, and put forth the fire rating it yields (likely 4-hours or more). If fundraising falls short we will remove the 1-hour rating from the proposal. Though limiting in some circumstances, it would still be a viable appendix for most projects.

Everyone at CRI continues to be excited by the prospect of an approved and readily available cob code. We are very proud of the appendix proposal that so many devoted people contributed to and that was praised in Albuquerque. We are eager to take the next very achievable steps to make a cob code a reality, especially to give communities at risk of wildfires a sustainable, non-combustible wall system option. We invite you to join us. Please consider supporting the effort with a tax-deductible contribution for testing and other necessary expenses in this process. <https://www.crowdrise.com/o/en/campaign/cris-cob-code-effort>

Thank you! We look forward to the hearings in Las Vegas!

# CRI FUNDING WALL

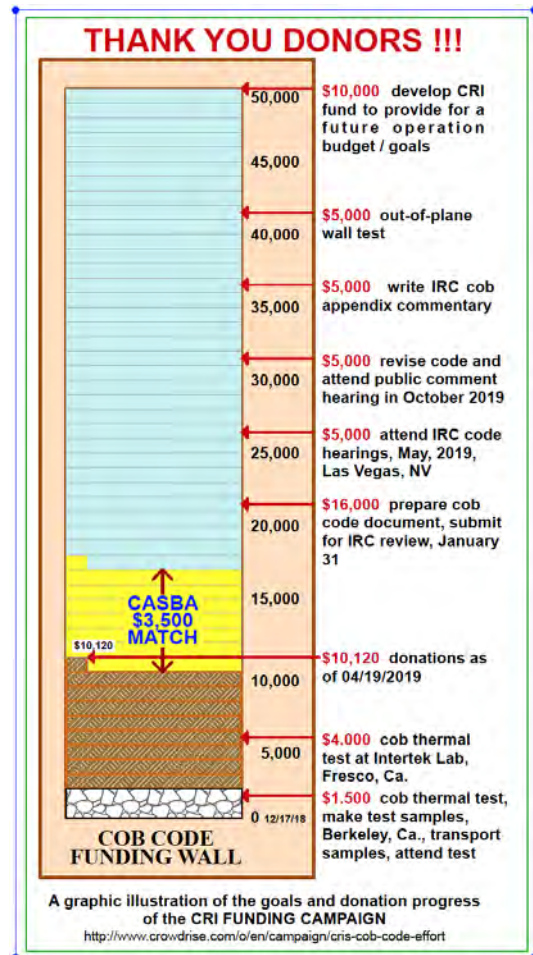
## CRI AT WORK

In the past three years CRI has made great strides towards our goal of

## A COB BUILDING CODE

We have -

- expanded our website
- developed a library of cob information
- published our first newsletter
- attended Terra2016 in France
- presented an EarthUSA white paper
- collaborated with The Earthbuilders Guild (TEG)
- In-plane tested four cob walls
- out-of-plane tested a cob wall
- R-value tested a cob wall panel
- written and submitted a proposed Cob Appendix for the IRC !!
- Raised over \$10,000 towards our testing and code effort.



With the support of over 100 donors our recent crowdfunding campaign CRI raised more than \$10,000 This brought CRI 1/5 of the way to our

## \$50,000 goal needed to:

- Cover the costs of writing the IRC Appendix and Commentary.
- Attend and shepherd the code through ICC approval hearings in May and October of this year.
- Do needed structural, thermal, and fire rating testing.
- To complete additional research, development, structural and R-value testing of low density cob mixes, wall reinforcing, fire rating, and other code improvements.

If you want to build with cob where a building permit is required

CRI is working for you !

Support CRI to help set cob free !

Go to <https://www.cobcode.org/donate>

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## **DON'T FORGET THE \$3500 MATCH**

The good folks at CASBA, the

California Straw Building Association,

have offered a matching \$3500 donation to CRI

- **Double your donation !!!**

Here is a chance to double your support of the IRC COB

CONSTRUCTION APPENDIX

Donate before May 30th and CASBA will match your donation dollar for dollar.

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Also we are seeking people to join in a CRI peer to peer funding

campaign. Contact us and we will work with you to increase CRI's funding.

Donate and join at <https://www.crowdrise.com/o/en/campaign/cris-cob-code-effort>

## **DONATE TO CRI**

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**Our mailing address is:**

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